ACCOMMODATION OF OIL INDUSTRY ON SAN NICOLAS ISLAND

SPECIAL STUDY REPORT

9 APRIL 1974

RANGE DEVELOPMENT DEPARTMENT

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1. Introduction

The Western Oil and Gas Association (WOGA) has made a request by letter dated 1 March 1974 for restricted use of limited portions of the off-shore islands of San Clemente, San Nicolas, and San Miguel. This report is limited to consideration of San Nicolas Island (SNI) only.

The Navy position as stated by the Chief of Naval Operations and the Chief of Naval Material is that joint use is unacceptable since any encroachment on the island itself would undoubtedly cause some degradation in mission performance. However, if equivalent or greater degradation is caused by oil exploration and development off shore of SNI and is outside of direct Navy control anyway, then some consideration for limited use of the island itself may be warranted. If new or improved facilities, available for Navy joint use, were to be funded and provided by oil interests in major areas, then favorable decisions would certainly be more likely for joint use.

This report will detail areas on SNI that may satisfy the requirements of the WOGA letter and indicate construction or site preparation required, restrictions apparent, and other operational considerations necessary for mutual benefit.

2. Oil Industry Requirements

The following requirements of the oil industry were stated in a letter from WOGA dated 1 March 1974:

a. The Amount of Acreage Required. We estimate that the oil industry might wish to occupy no more than 200 acres for all uses on any particular island. More specifically, oil industry uses might be subdivided for:

(1) General operations, communications, and storage of supplies: Approximately 20 acres where 20 to 40 people would be employed.

(2) Oil and gas separation, dehydration, and natural gas compression: Approximately 20 acres involving 10 to 20 people.

(3) Oil storage and tanker loading facilities: Probably 30 acres where 20 to 30 people would be employed.

(4) Gas processing, including sulfur removal: 60 acres involving 20 to 50 people.

(5) Miscellaneous activities occupying 70 acres and involving not more than 50 people.

All together, within this 200-acre complex 120 to 190 people might be involved.

b. The Location of Acreage on Specific Islands. Acreage location should be in the least hazardous areas, reasonably level and immediate to the sea and on the leeward side. First preference would be given to San Clemente Island for use by the industry because of its proximity to the southwesterly portion of the sale area and the prospects of developing better port facilities. Our next choice would be SNI, again because of its strategic location with reference to possible future industry activities. Our last choice would be use of San Miguel Island, principally because it might be more advantageous than operating wholly from the mainland.

c. Possible Use of Aircraft Runways. Use of the aircraft runways should be planned for transportation, cargo, and VIP planes. If economics so indicate, crews would be transported by plane to an island such as San Clemente, then transported by boat or helicopter to the drill site. Cargo planes might be used for transporting urgently needed equipment. At the $20,000 to $40,000 per day operating costs for a drilling vessel, immediate delivery is economically quite desirable.

d. Use of "Stub" Pier, San Clemente Island. Use of pier facilities at San Clemente Island is essential for anticipated oil industry operations, and we should like the Navy's permission to enlarge present facilities for our mutual benefit. With respect to SNI, if permission is granted and economics indicate the desirability of doing so, we should like to construct pier facilities at SNI. Without such a pier, the island would be of use only for mud, cement, water, and fuel storage, all of which could be handled from a vessel anchored next to shore facilities.

e. Number of Personnel. Under paragraph 2.a above, we have outlined our best estimates of personnel who would be involved in daily activities. At any single time, perhaps the full complement of people would be on a single island. Crew changes would be staggered, but still a large number of people would be needed. In an emergency, however, we certainly could evacuate all personnel.

3. Range Safety Considerations

The purpose of this section is to show the effects and assess the impact to launch operations caused by the possible future use of SNI for support of off-shore oil operations.

a. Assumptions. The following assumptions are used in this study:

(1) The oil exploitation activities will require a total land area of 200 acres on SNI.

(2) These activities will be logistical in nature and will not involve drilling.

(3) Live missile firing operations will be conducted to seaward of SNI and the Santa Rosa Ridge.

(4) The requirements to provide an instrumented impact area on the northwest tip of SNI will remain unchanged.

b. Discussion

(1) SNI provides the PMR with three major capabilities that are unique: (1) An instrumented landmass impact area which permits acquisition of terminal phase metric and optical data from a missile that has been launched and flown over water to a target on land, (2) a runway that permits the no-live operator (NOLO) take-offs and landing of drone aircraft, and (3) land-based instrumentation some 60 nautical miles to seaward of the Point Mugu complex, thus permitting collection of metric and telemetry data in ocean areas relatively free from intruders.

(2) At present, the northwest portion of SNI, generally west of Building 127, is designated a ground hazard area for a majority of missile programs using SNI. However, the new-generation missiles requiring vertical launches encompass a much larger ground hazard area. For these launches, a 12,000-foot radius arc about launch complex 1 (Structure 194) as center defines the area to be clear of personnel. Oil support activities must be excluded from this area for range safety purposes. Figure 1 defines this area.

(3) The northwest portion of SNI is normally reserved for programs requiring impact on land and programs requiring launches from SNI for unique launch requirements. Low-altitude flyby of target drones are also conducted in this area. In addition, NOLO drone aircraft use the SNI runway for take-offs and landing for programs requiring an aircraft target.

(4) Typical missile programs impacting on SNI include CONDOR, WALLEYE, and BULLPUP. AN/TPQ-27 bomb drops and the bomb dummy unit (BDU) are typical bombing programs that also use this area. Predetermined targets are selected and placed at specific locations for targeting purposes. Figures 2 through 6 depict the location of the impact area and their respective hazard area involved in the missile operation and bomb drops.

(5) Missile programs that are launched from the SNI launch complex include the NEBIS, vertical launch test vehicle (VLTV), TALOS/LAST, REDEYE, RATPAC, and CIWS. Most of the launch hazard areas are west of Building 127. However, for NEBIS and VLTV (vertically launched vehicles), a 12,000-foot radius arc about launch pad 1, Structure 194, includes Building 127 and other radar/telemetry buildings within their ground hazard area. Figures 7 through 12 describe the location of the launch point and their respective ground hazard area involved.

(6) Laser programs are also conducted here. A typical program is the CHAPARRAL laser tests which require the clear area shown in Figure 13. In addition to this program, there are eight to ten additional active laser programs at SNI. Some of these use the permanent laser range shown as Structure 236 on Figure 1. Most, however, use the northwestern side of the island and are in support of missile test and evaluation programs. These programs include target identification, passive homing on laser illuminated targets, and active homing from airborne missiles. These programs require the frequent clearing of the northwestern end of SNI as well as sea and air spaces in the sea test range.

(7) Low-altitude flybys by target drones such as the AQM-37A and BQM-34A are required by some missile programs. These low-flying targets present safety problems, especially from errant targets when hit and not completely destroyed by the missile or gun firing. These tests are also conducted at the northwest area of SNI.

(8) At the eastern side of SNI, NOLO target drone aircrafts use the runway for take-offs and landing. These include the QF-9, QF-4B, QT-33A, and QF-86H (future). Tow targets include LOFAT, LOFAST, DF-17A, and FIGAT. In the case of tow targets, all aerodynamically unstable targets are recovered at SNI. Inherent hazards are present during take-offs and landing requiring clearance of an area 600 feet on each side of the runway.

c. Conclusions

(1) The northwest area of SNI is normally reserved for missile impact, missile launches, bomb drops, and low-altitude flybys by target drones or tow targets.

(2) This hazardous area is the ground area from the northwest tip of SNI to a 12,000-foot radius arc east about the launch pad 1, Structure 194, as a center. Oil support activities should not be in this area.

(3) Least hazardous area is to the east of the defined ground hazard area.

(4) There are inherent dangers from take-offs and landing of target drones and tow targets which require a clear area 600 feet on each side of the runway.

d. Recommendations

(1) No oil support activities shall be located within the ground hazard area defined by the 12,000-foot radius arc east about launch pad 1, Structure 194, as a center.

(2) An area 600 feet on each side of the runway will be cleared of structures.

(3) No structures will be on either end of the runway.

4. Criteria for Accommodation

With regard to the possibility of tenancy of portions of SNI by oil industry interests, the following criteria is recommended:

a. Basic Position. The basic position of the PMR will be that:

(1) Oil production interests (OPI) will be entirely self-sustaining in all respects. The Government will only provide emergency services which are already within its capability.

(2) All OPI facilities will be located separately and apart from Government facilities and within the designated area (see map, Figure 1). The OPI designated area will be roughly bounded by the existing NAVFAC landing area and the south tip of SNI and between the shoreline and the bluff lines. Total area of this parcel would be well in excess of the 200-acre requirement outlined by OPI in paragraph 2 above. Considerable earthmoving, grading, and compacting could be required for OPI activities, but the same would be true if any other island location were designated for OPI. OPI developers are well experienced in the utilization of similar terrain in other parts of the world; no need can be seen for the Government to unduly concern itself with providing the most ideal space for OPI use, or with the providing of alternative land parcels from which OPI might choose, or with allowing any kind of encroachment on existing instrumentation or impact areas.

(3) The Government will require emergency access to and use of any of the facilities which are constructed or installed by OPI in case of war, imminent danger or natural disaster, or threat to life and/or health of the population.

(4) The Government will maintain continual access to all existing Government facilities within the designated area.

(5) The Government will require the beneficial use or occupancy of any new facilities within the designated area which the OPI may construct (such as wharves, piers, docks) for its own use and which might be useful in carrying out Government functions at SNI. Government use of such facilities would be on a shared basis and on terms suitable to both parties.

(6) The status of OPI will be that of tenant on Government land.

b. Use of Airfield

Use of the airfield and associated facilities at SNI by OPI will be allowed provided that some equitable and realistic charge therefor is made by the Government. (The basis of such a charge is outside the scope of this paper, but annual maintenance costs and direct costs plus contingency costs would no doubt be the starting point for its development.) Use of the GCA system, crash crew service, control tower, meteorological services, and similar items will also be made available, also on an equitable reimbursable basis.

Support activities and facilities such as fueling, defueling, hangar space, aircraft maintenance and repairs should be discouraged at SNI. If OPI does indicate a valid need for these functions, all procedures and installations must conform to existing NAVAIR standards and criteria. New construction shall also conform to NAVFAC criteria. (See paragraph 4.j below)

c. Security. The status of OPI personnel on SNI or at Point Mugu will be equivalent to that of a contractor. All security requirements applicable to contractors which are involved in comparable activities for the Government will apply to OPI. The costs to the Government for processing security clearances, controlling access, maintenance of files, records, etc., shall be reimbursed by OPI.

d. Fire Protection. The OPI shall provide for their own fire protection. Additionally, OPI shall take all necessary steps and install all necessary equipment which may be required for the fire protection of Government land and facilities which are affected by OPI activities. Where applicable, fire protection methods and equipment shall conform to NAVFAC and/or NAVAIR criteria.

e. Berthing, Messing, Recreation. No berthing, messing, or recreation facilities will be available for OPI use. The OPI must plan, construct, and operate their own facilities to meet these needs. The locations of such facilities must be within the OPI designated areas.

f. Government Facilities Available for Rent. No Government facilities will be available for rent.

g. Government Utilities Available on Reimbursable Basis. No Government utilities will be available. The OPI must provide and/or construct and operate their own support utilities such as electrical power, water, sanitation, fuel, communications, transportation, etc.

h. Medical Facilities. No Government medical facilities exist at SNI.

i. Common-Use Facilities. An equitable charge will be made for the OPI use of common facilities such as the airfield, pipelines, and service roads; this charge will be based on historical annual facility maintenance

cost experience. (This charge could be included in the annual lease payment which would be paid by OPI for usage of the 200 acres.)

j. New Construction. All new buildings, roads, streets, towers, or other fixed works to be planned and constructed by the OPI shall be designed according to applicable established codes and environmental criteria currently in use by NAVFACENGCOM. All plans and specifications must be submitted to COMPMR for review and/or approval prior to construction. Siting of new facilities is specifically included for COMPMR review/approval. Environmental qualities shall be considered and protected or enhanced as required by the National Environmental Policy Act of 1969. Controversial or significant environmental impacts must be resolved to the satisfaction of all cognizant agencies such as U. S. Department of Interior (Bureau of Sport Fisheries and Wildlife), California State Department of Fish and Game, Ventura County Air Pollution Control District, California Water Quality Control Board.

Upon abandonment or permanent departure from SNI by OPI, all fixed works which have been installed by OPI shall become the property of the U. S. Government. At its option, the Government may require OPI to dismantle, demolish, and/or remove any or all fixed works from SNI, all at OPI expense.

k. Alterations or Modifications. Alterations or modifications to existing Government facilities shall also be planned and designed in accordance with existing Government codes and criteria. All plans and specifications shall be submitted to COMPMR for review and approval prior to the start of work.

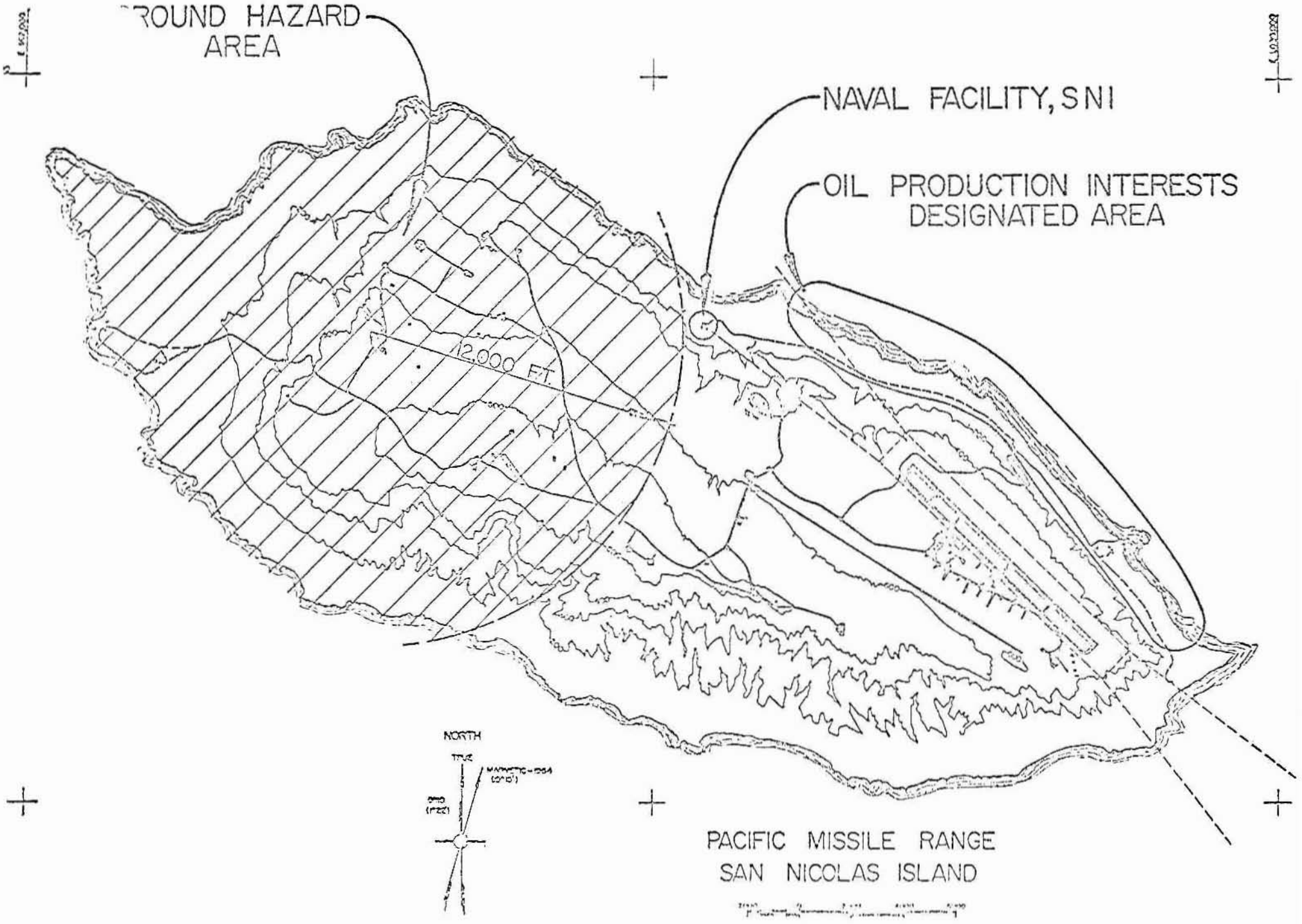
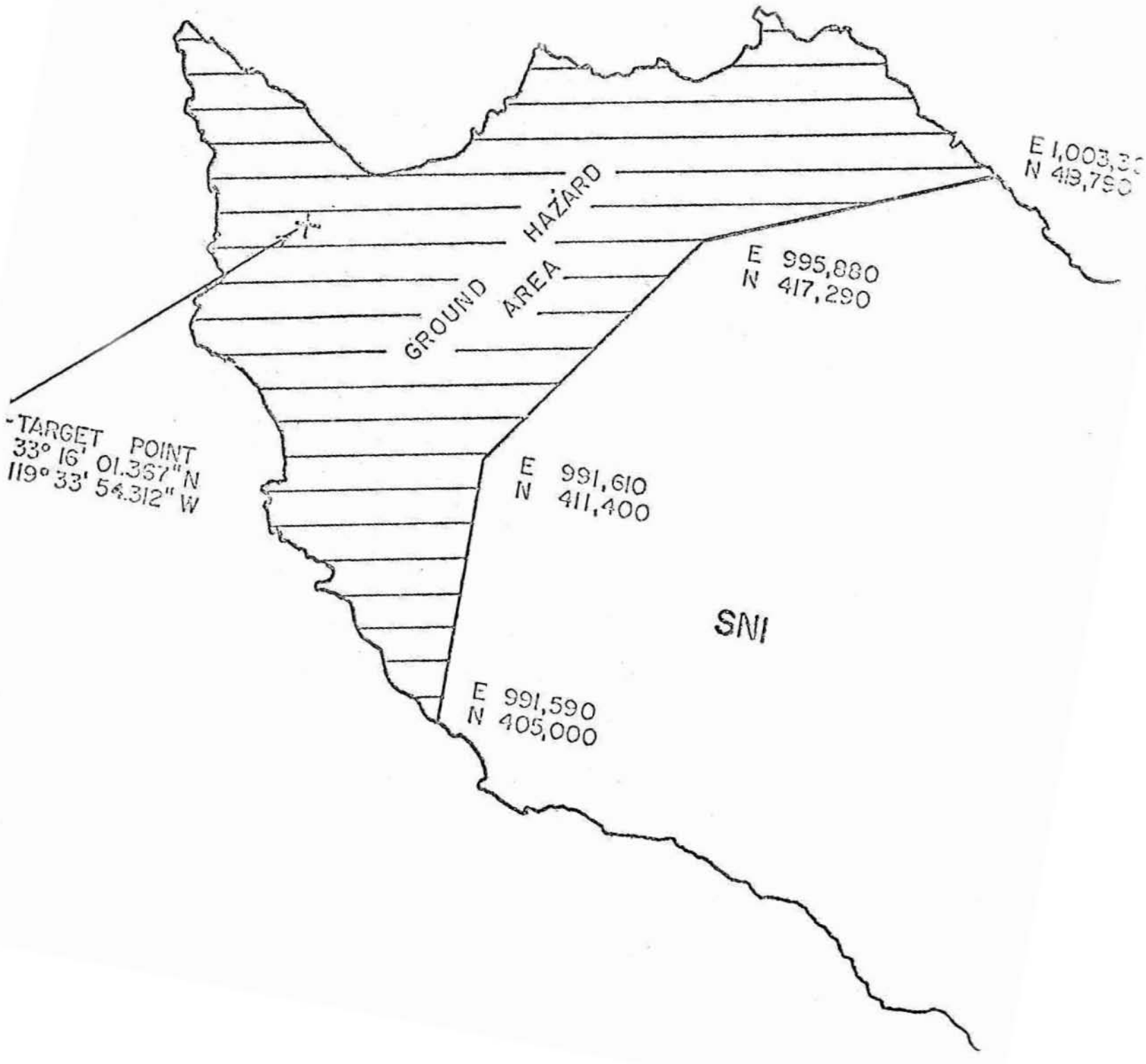

ROUND HAZARD AREA
NAVAL FACILITY, SNI
OIL PRODUCTION INTERESTS DESIGNATED AREA
12,000 FT.
NORTH
TRUE
PACIFIC MISSILE RANGE
SAN NICOLAS ISLAND

FIGURE 1

CONDOR GROUND HAZARD AREA



WALLEYE

GROUND HAZARD AREA

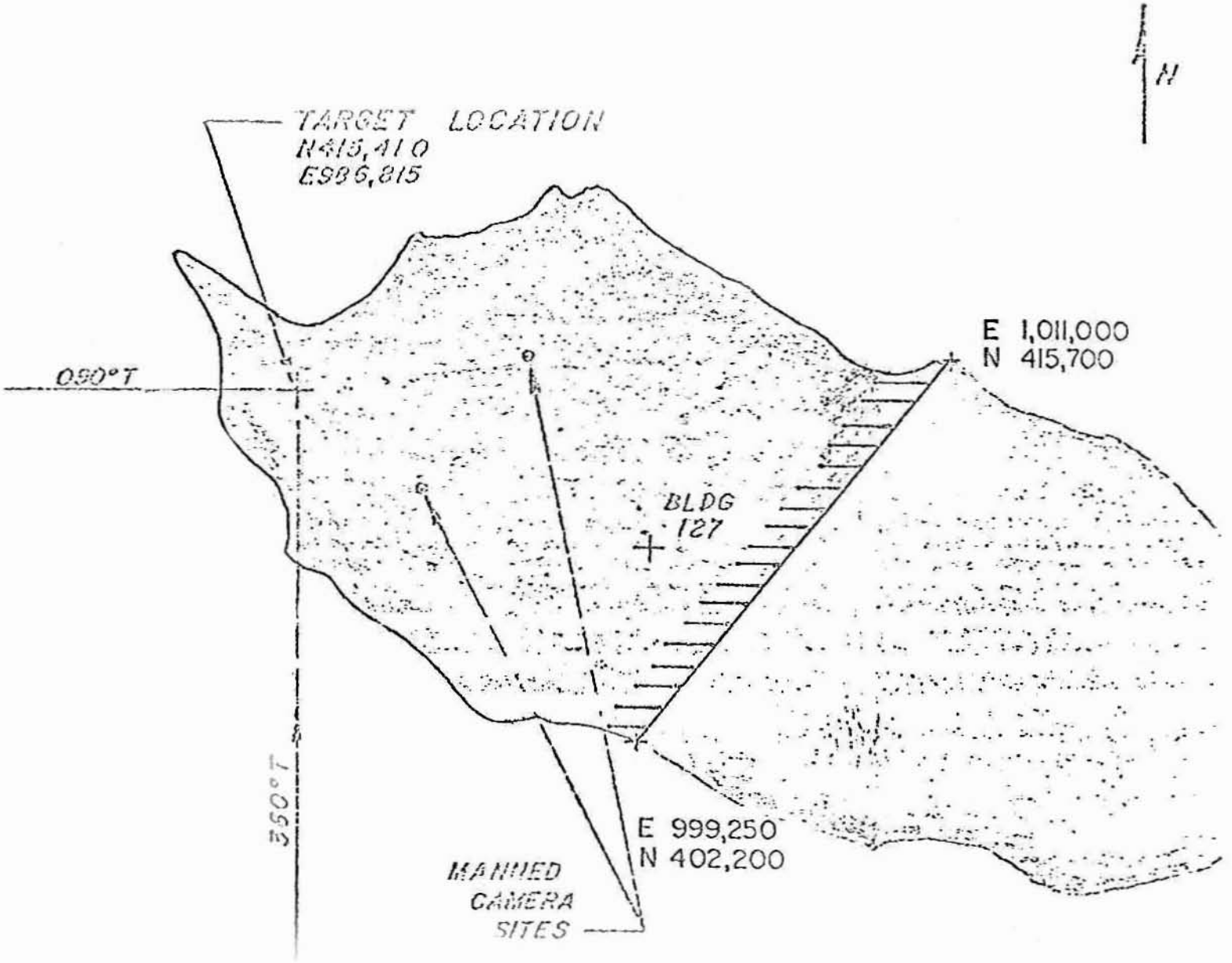


FIGURE 3

BULLPUP (AGM-12B)

AIR HAZARD AREA FOR INERT WARHEADS AGAINST THE SAN NICOLAS ISLAND TARGET

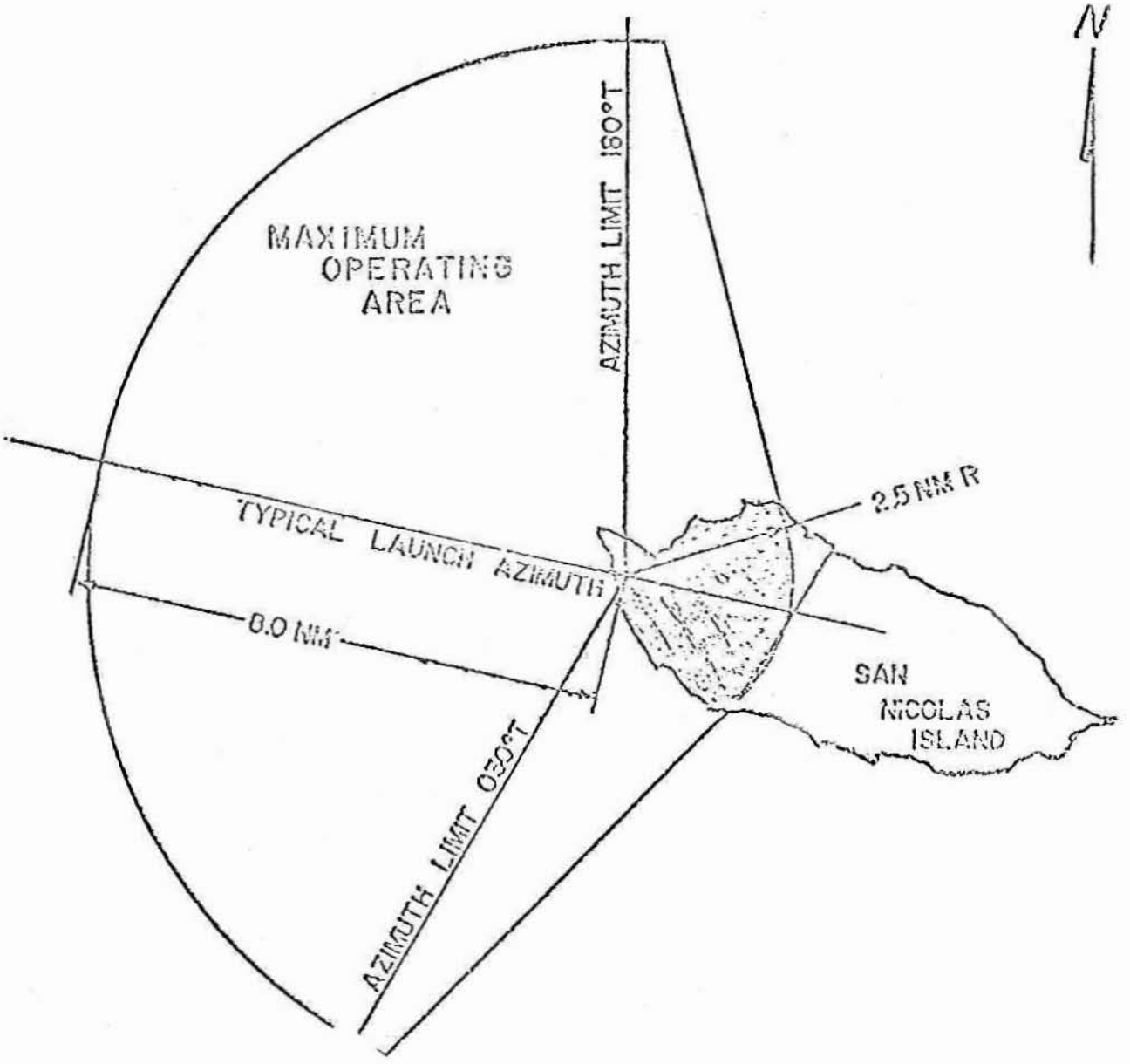


FIGURE 4

AN/TPQ-27 BOMB DROP
GROUND/SURFACE HAZARD AREA

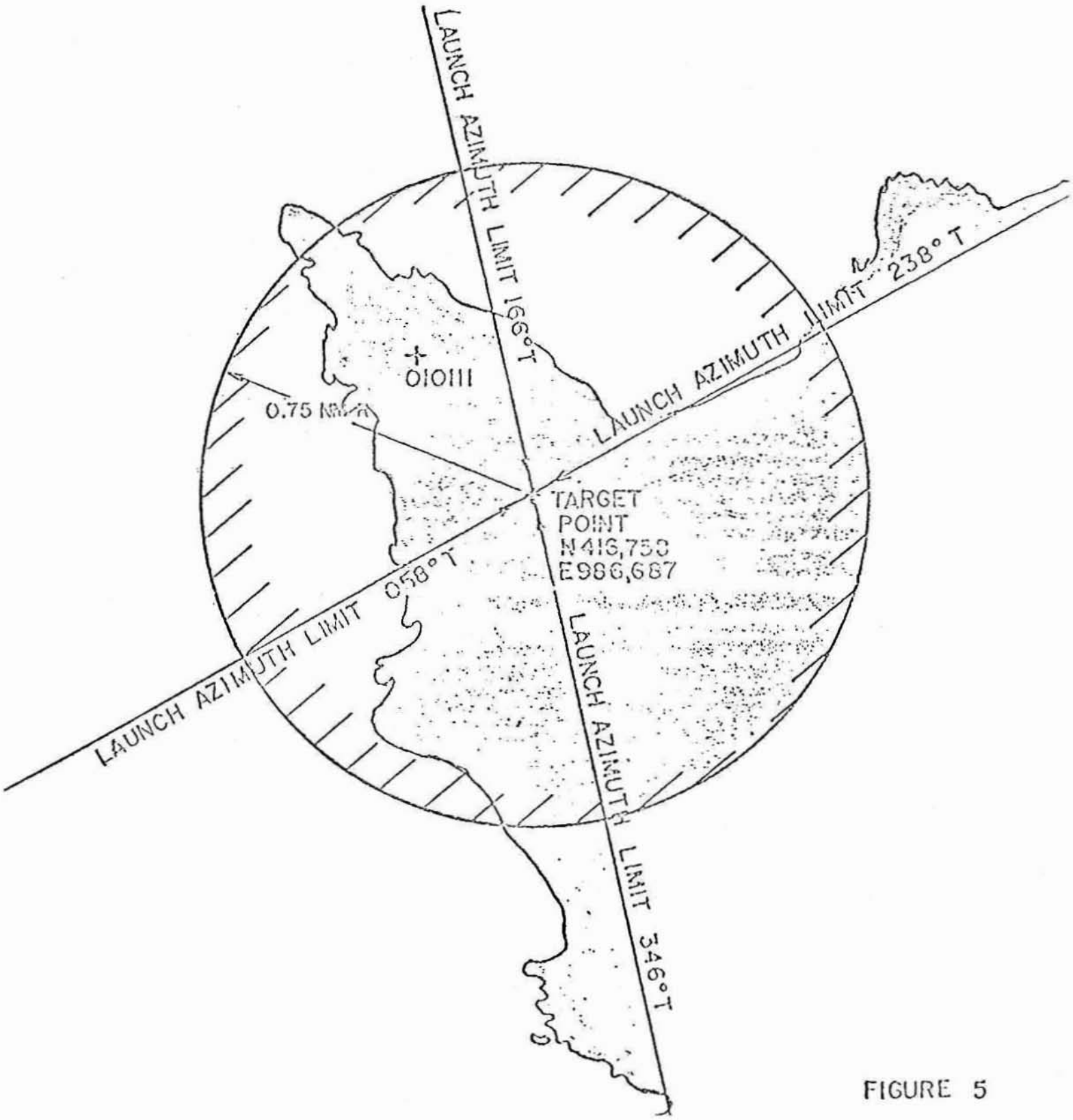


FIGURE 5

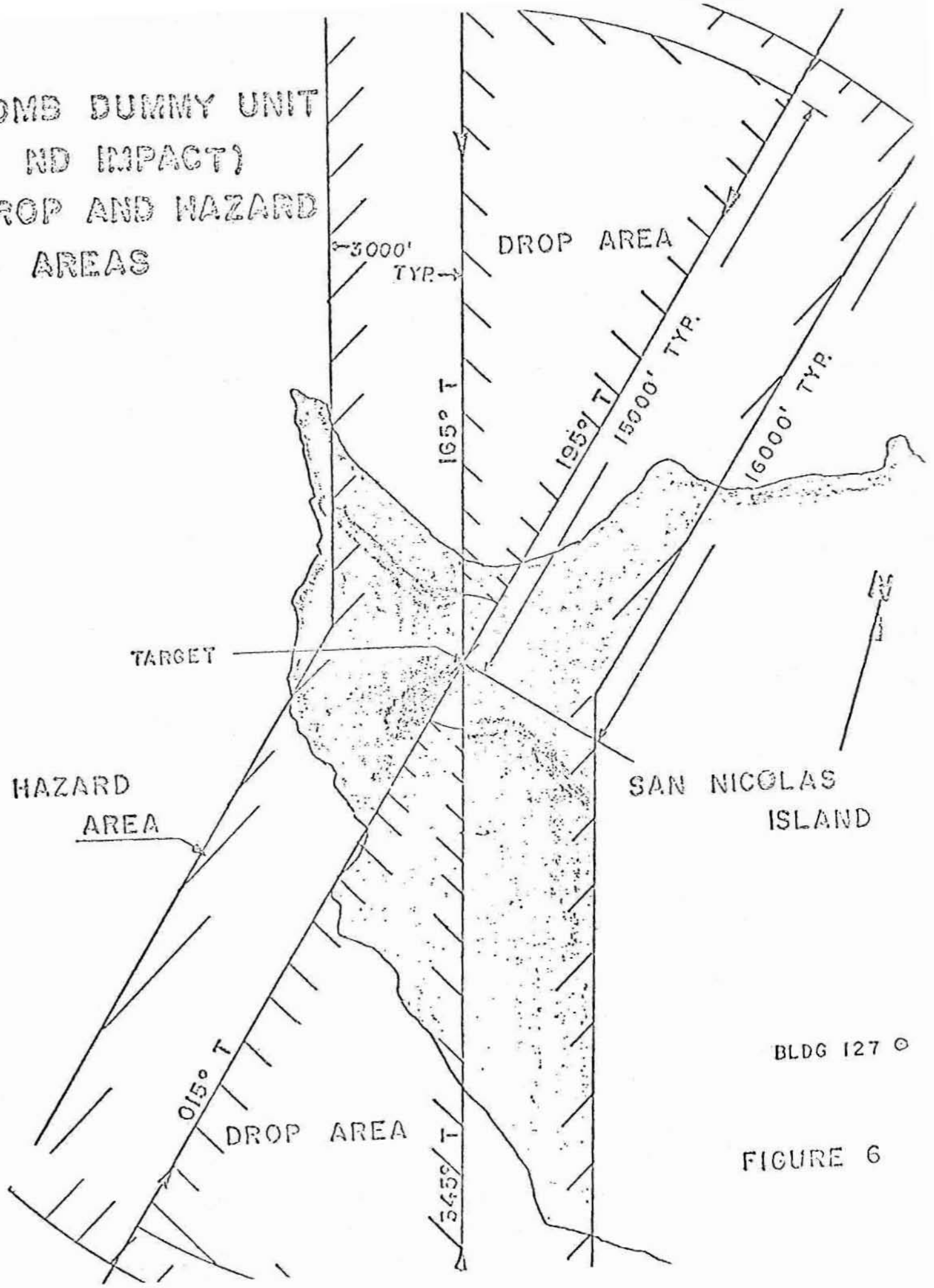

BOMB DUMMY UNIT
(ND IMPACT)
DROP AND HAZARD
AREAS
3000'
TYP.
DROP AREA
165° T
195° T
15000' TYP.
16000' TYP.
TARGET
HAZARD
AREA
SAN NICOLAS
ISLAND
015° T
DROP AREA
345° T
BLDG 127

FIGURE 6

NEBIS
GROUND HAZARD AREA

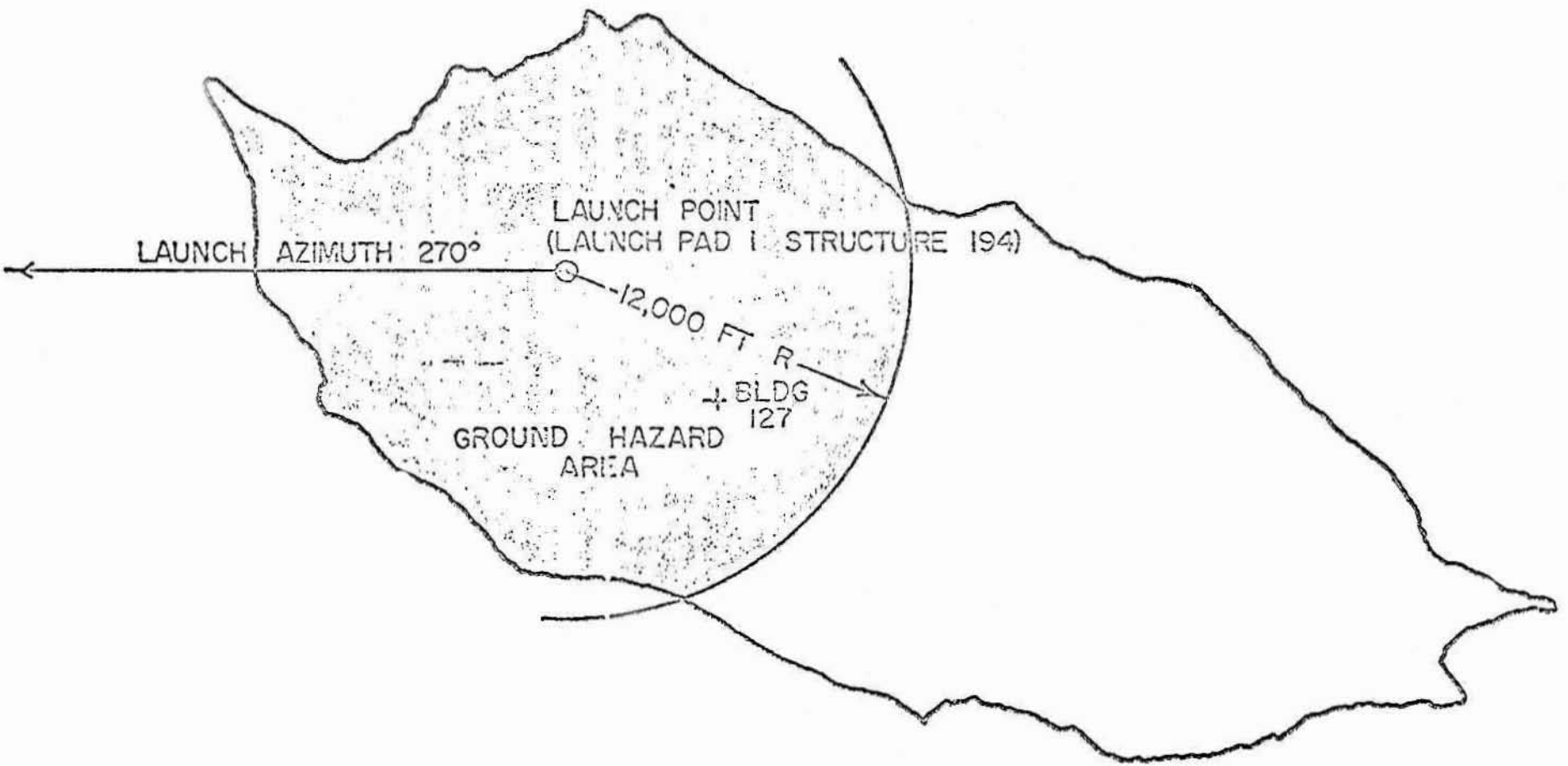


FIGURE 7

VERTICAL LAUNCH TEST VEHICLE (VLTV)
MISSILE HAZARD AREA

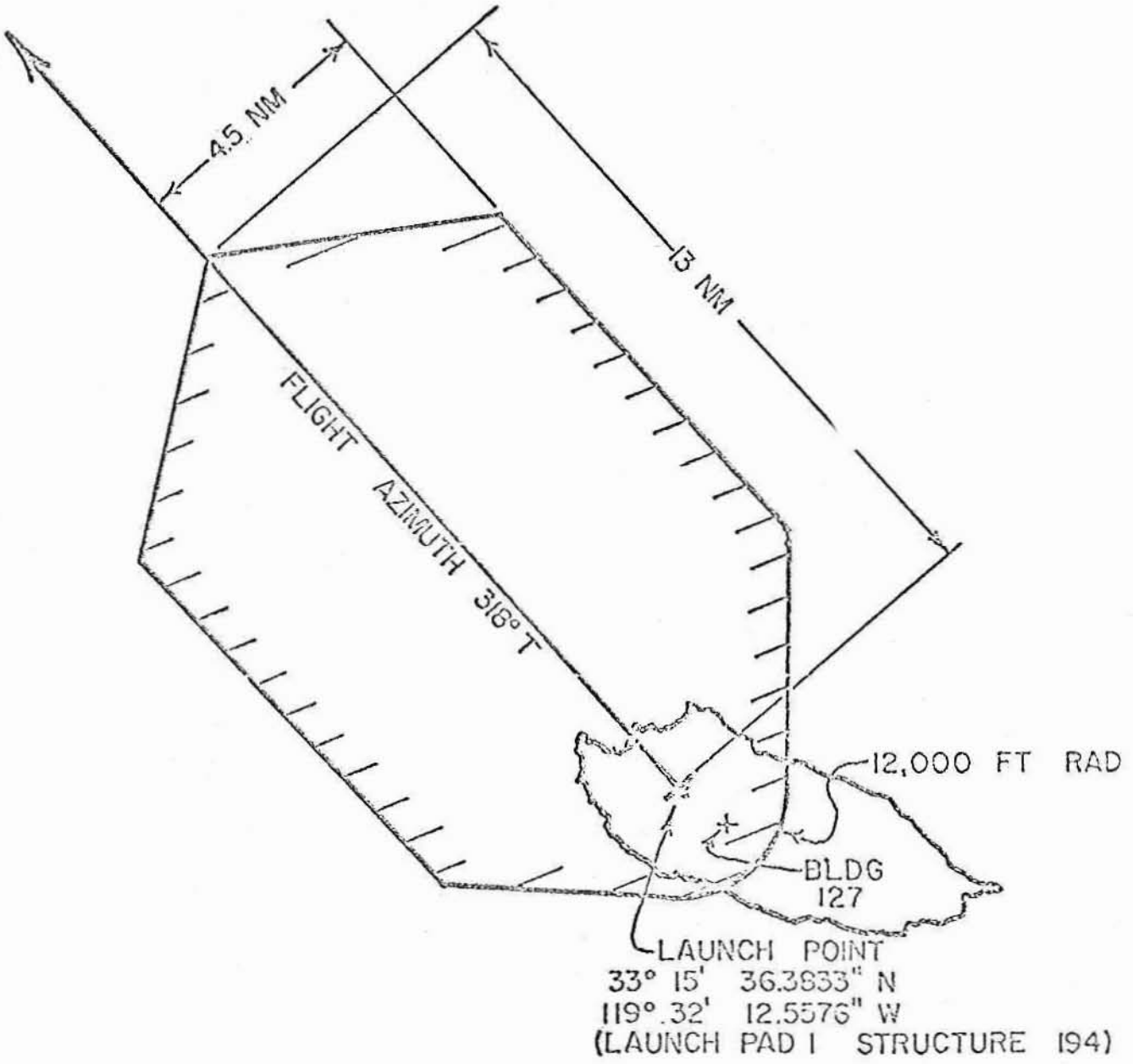


FIGURE 8

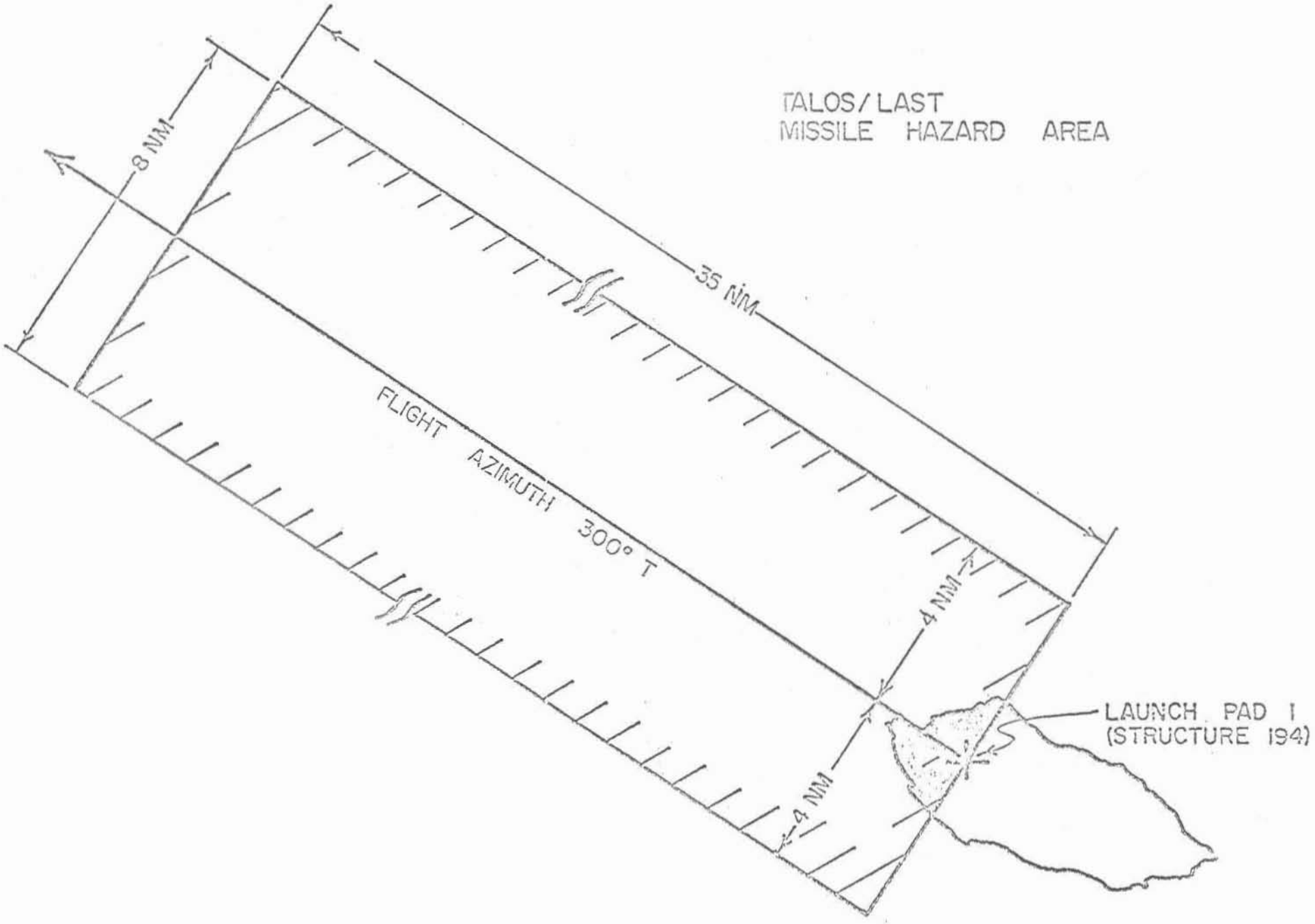

TALOS / LAST
MISSILE HAZARD AREA
8 NM
35 NM
FLIGHT AZIMUTH 300° T
4 NM
4 NM
LAUNCH PAD 1
(STRUCTURE 194)

FIGURE 9

DUAL MODE REDEYE

HAZARD AREA

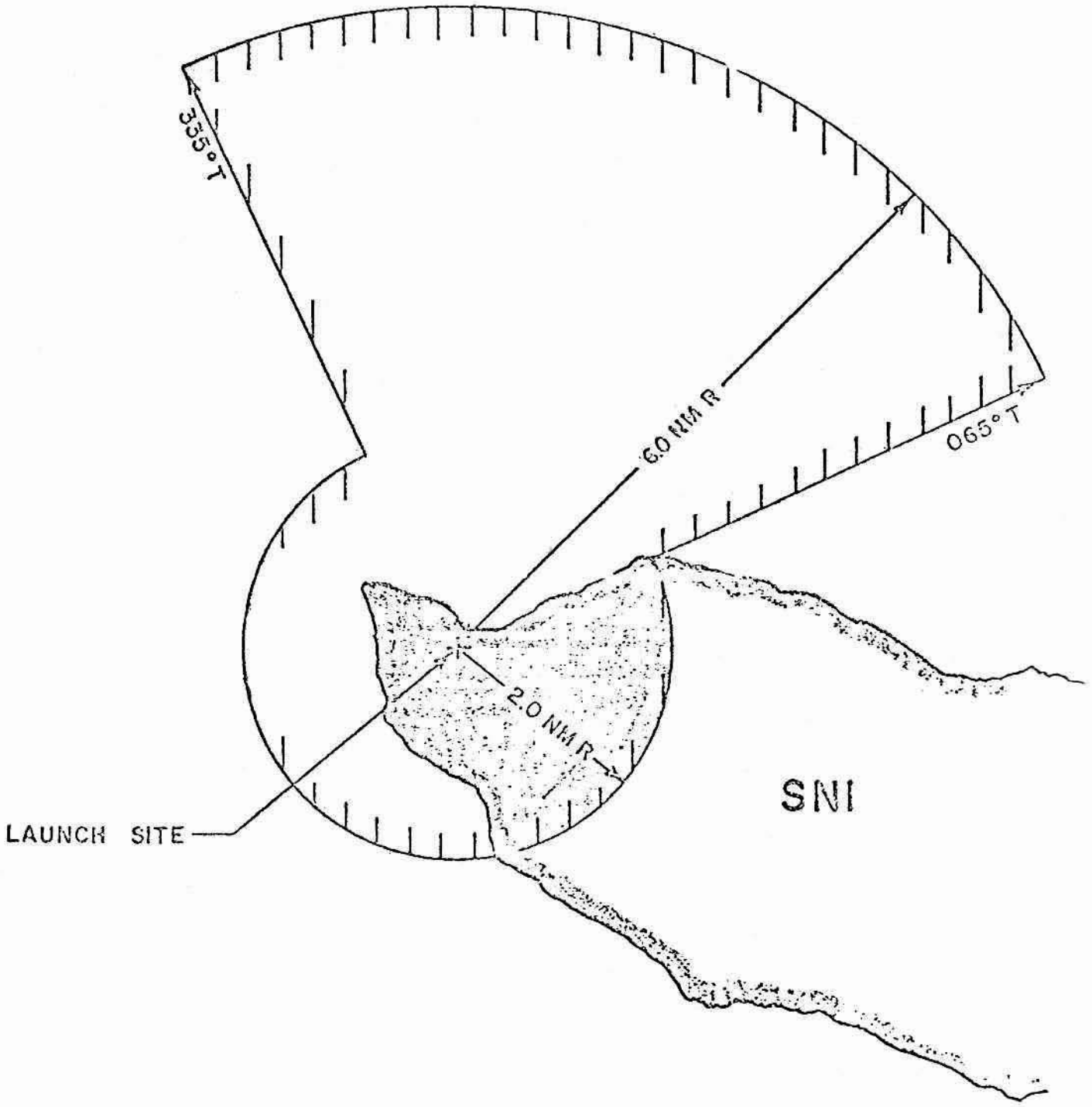


FIGURE 10

F TPAC 1C

BOOSTER PREDICTED IMPACT AND UNIGNITED SUSTAINER IMPACT AREAS

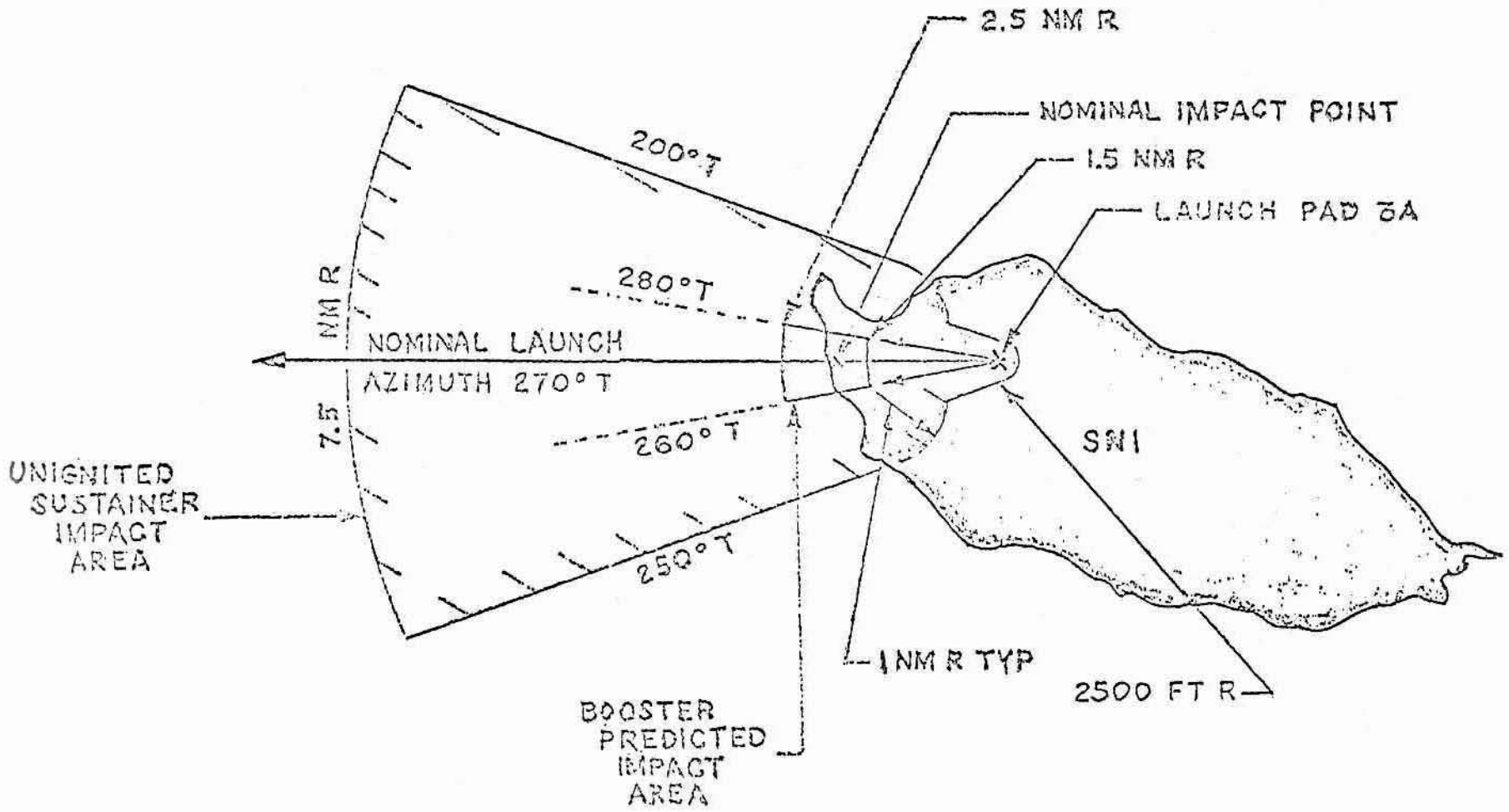
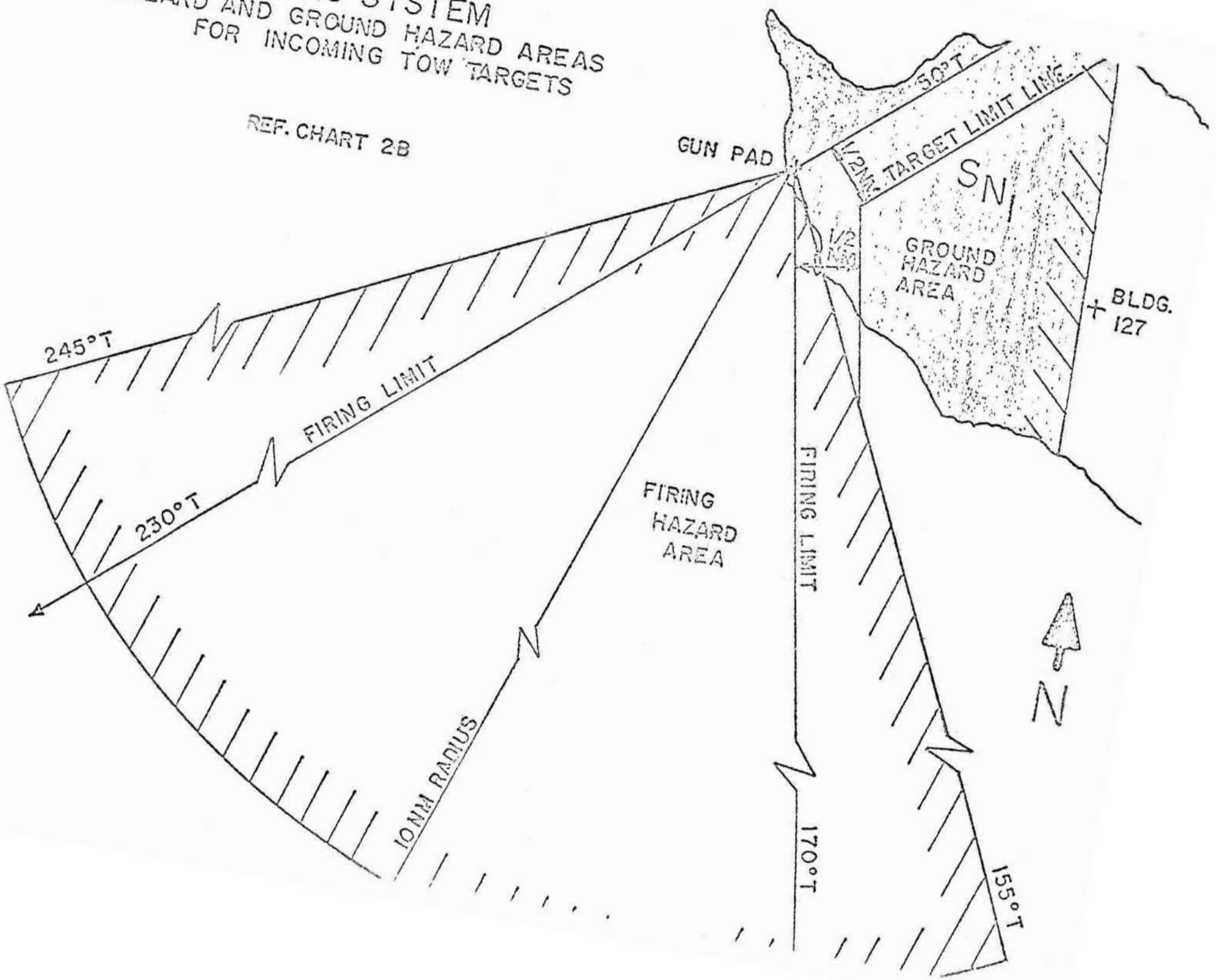


FIGURE 11

REF: RADAR CHART 2000 YDS. PER INCH

CLOSE IN WEAPONS SYSTEM
FIRING HAZARD AND GROUND HAZARD AREAS FOR INCOMING TOW TARGETS

REF. CHART 2B



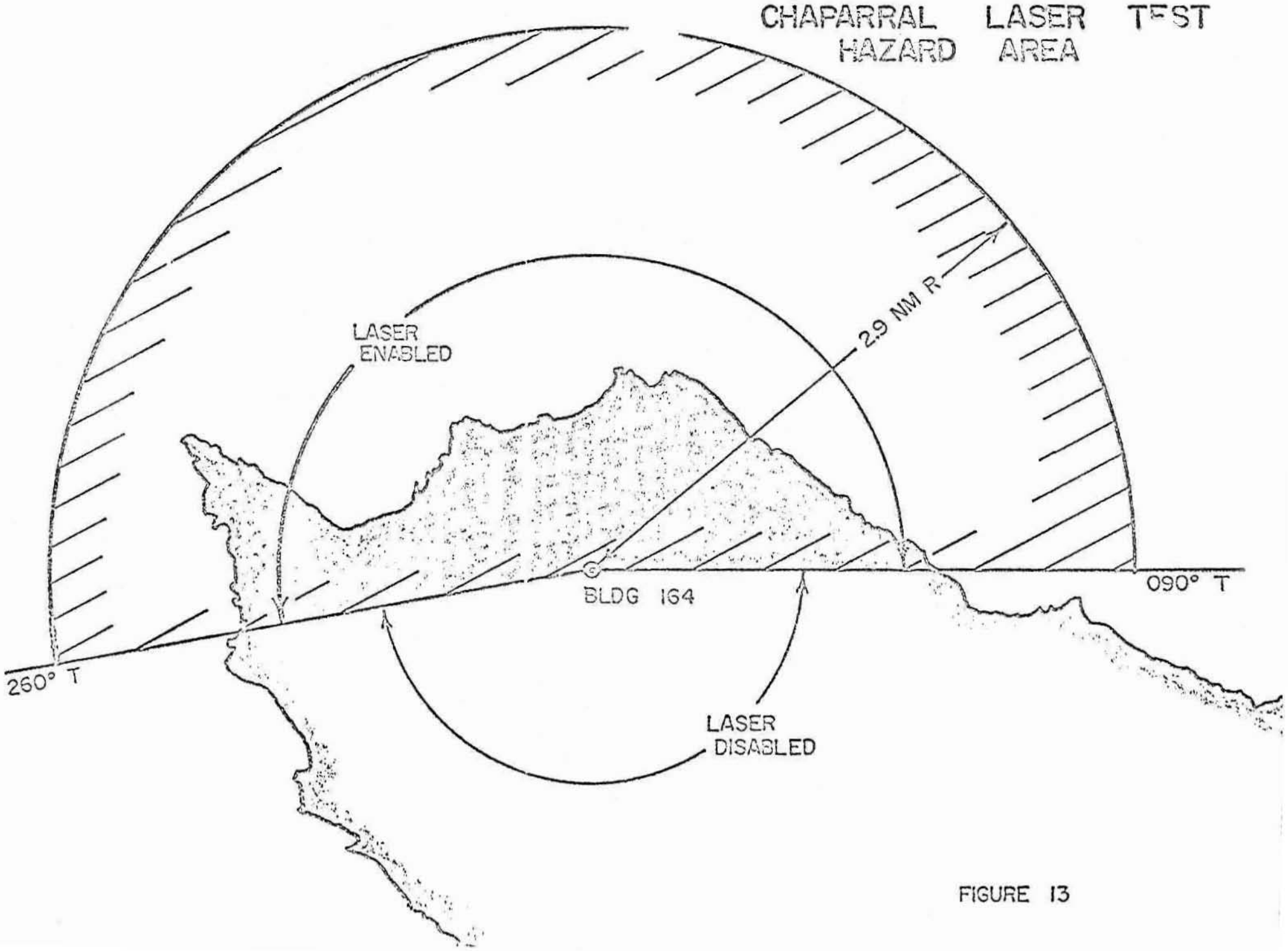

CHAPARRAL LASER TEST
HAZARD AREA
LASER
ENABLED
2.9 NM R
BLDG 164
090° T
260° T
LASER
DISABLED

FIGURE 13